

IN THE CLAIMS:

Please cancel Claims 1-2 and add new Claims 4-13:

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~~4.~~ A silicon nitride material comprising sintering aids including at least Al_2O_3 and silicon dioxide, in a grain boundary phase, wherein the silicon dioxide in the grain boundary phase and the sintering aids including at least Al_2O_3 in the grain boundary phase have a molar ratio of silicon dioxide to silicon dioxide and sintering aids including at least Al_2O_3 that is $> 60\%$ and the oxide nitride content is $< 1\%$.

5. The silicon nitride material of Claim 4, wherein the material further comprises a sintering aid selected from the group consisting of Y_2O_3 , Sc_2O_3 , rare earth metal oxides, alkaline earth metal oxides.

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6. The silicon nitride material of Claim 4, wherein the sintering aids and the silicon dioxide are present at an amount so that the grain boundary phase is $< 20\%$ by volume.

7. The silicon nitride material of Claim 4, wherein the sintering aids and the silicon dioxide are present at an amount so that the grain boundary phase is from 0.1 to 17% by volume.

8. The silicon nitride material of Claim 4, wherein the sintering aids and the silicon dioxide are present at an amount so that the grain boundary phase is from 3 to 15% by volume.

9. The silicon nitride material of Claim 4, wherein the material further comprises a reactive additive.

10. The silicon nitride material of Claim 9, wherein the reactive additive is selected from the group consisting of TiO_2 , WO_3 and MoO_3 .

11. The silicon nitride material of Claim 4, wherein the material further comprises an additive that is retained as a disperse phase.

12. The silicon nitride material of Claim 11, wherein the reactive additive is selected from the group consisting of SiC , TiN , MoSi_2 , TiCN and HfO_2 and additives which form mixed crystals with the Si_3N_4 .

13. The silicon nitride material of Claim 4, wherein the material has a porosity that is $< 2\%$.